ECONOMICAL WRITING

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Most people who write a lot, as do economists, have an amateurish attitude towards writing. Economists do not mind criticism of their facts or their formalisms, because they have been trained in these to take criticism, and to dish it out. Style in writing is another matter entirely. They regard criticism of their drafts the way a man unfamiliar with ideas regards criticism of his ideas: as an assault. The man in the street cherishes his notions about free trade because, says he, they are "just matters of opinion" which anyone is "entitled to believe in a free country." The man in the street and the economist at the typewriter view their intellectual habits to be on a par with their opinions on transubstantiation or their taste in ice cream.

The economic writer, therefore, cherishes his habits of style as matters God-given, or at the least highly personal. One cannot change one's body-type or basic character, and it is offensive for some creep to criticize them:

Linus: What's this?

Lucy: This is something to help you be a better person next year... This is a list I made up of *all* your faults. [Exit]

Linus [reading, increasingly indignant]: Faults? You call these *faults*? These aren't faults! These are *character traits*![1]

Writing is supposed to be the same. The real professionals, such as journalists and poets, have learned to take advantage of brutal criticism of their writing in the same way economists have learned to take advantage of brutal criticism of their first order conditions. But the amateurs don't look at it this way. They react to hostile remarks about their graceless use of "not only ... but also" the way they react to hostile remarks about their weight. Dammit, that's who I am; lay off, you louse.

Consider, though, that professional musicians continue taking lessons and that Thomas Sargent takes a new math course each year. The mature and scholarly attitude would seem to be to suppress our injured pride, and admit that we all—you, I, and J. K. Galbraith—can use more instruction in writing.

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1. As D. H. Lawrence wrote in 1915, "A book which is not a copy of other books has its own construction, and what [Arnold Bennett] calls faults ... I call characteristics." (quoted in Geoffrey Strickland, 1981, p. 9).

1.) *Writing Is the Economist's Trade*

It's a shame that no one tells the novices in a trade that writes a lot how important it is to write well. Non-economists have long complained, but there is little incentive to pay attention.[2] Most older economists shrug off their responsibility to instruct the young, with the dismal remark that the young will not pay attention anyway. Walter Salant did his part to help younger scholars learn the trade in a charming essay published a generation ago (1969) and J. K. Galbraith wrote more recently (1978) on "Writing, Typing and Economics." Occasionally an editor will receive and pass along to the author a report by a referee that criticizes style in more detail than "I found this difficult to read" or "There's a typo on p. 6." The editors themselves do not edit. At the least they might reveal to the young that rotten writing causes more articles to be rejected for publication than rotten *t*-statistics. Honest. Bad writing does not get read.

Graduate teachers, who are paid to do it, do not teach writing. In graduate school the young economist gets no instruction on how to do what he will spend the rest of his life doing. The graduate programs, which claim to show him how to teach, to do research, and to advise governments and businesses, in fact make a habit of discussing things slightly off the point. No graduate program gives courses telling directly how to do economics, and most do not trouble to offer much in the way of workshops under an experienced eye. The literature, too, is impoverished, offering little to read concerning the hard business at hand. Students are taught minor details in statistics when the hard business of econometrics is a specification search; they are taught minor details in mathematics when the hard business of mathematical economics is to make our ideas clear. They are taught nothing at all about the obscurity of elegant variation, the folly of acronyms, the vanity of five-dollar words, and the thoughtlessness of imposing a first draft on the reader. Yet the hard business of economic scholarship is to marshal ideas well. In this secret of the craft the master carpenter turns his back on the apprentice, to conceal the skill of cutting a board clean.

The reason for learning to cut it clean is that the skill is used a lot. The economist's task depends more on writing than on speaking (though this, too, is neglected), because writing is the cheapest way to reach a big audience. Economics depends much more on the mastery of speaking and writing than on the mastery of engineering mathematics and biological statistics usually touted as the master skills of the trade. Most of the economist's skills are verbal. An economist should be embarrassed to do such a large part of the craft inexpertly.

2.) *Writing is Thinking*

The answer comes, "Oh, that's only style: after all, it's content that matters." The undergraduate, a barometer of invisible pressure in the intellectual world, will whine piteously about a grade of D+ awarded for bad

2. See Samuel T. Williamson (1947), for example.

writing: "Gee, you *knew* what I meant; my *ideas* were O.K.; it's just the *style* you didn't like; that's *unfair*" (undergraduates speak in italics).

Two responses can be made. Adopt for the moment the strange premise that content and expression are separable. One response is then that anybody who wants influence will want to express his content well. Bad writing, to repeat, does not get read. The only wretched prose that we literally must read is that from our gracious servants at the Internal Revenue Service. All other writers are on sufferance, competing minute-by-minute with other writers in an atomistic market for ideas. To put it less grandly, the writer who wants to keep his audience bears always in mind that at any moment it can get up and leave.

The influence of writing on science and policy deserves more attention than it gets. The history of ideas is filled with wide turns caused by "mere" lucidity and elegance of expression. Galileo's *Dialogo* succeeded not because it was a Copernican tract (there were others) or because it contained much new evidence (it did not) but because it was a masterpiece of Italian prose. Poincare's French and Einstein's German were no trivial elements in their influence. And of course the hypnotic influence that Keynes has exercised over modern economics is attributable in part to his graceful fluency in English.[3]

Of course the premise that content and expression are separable is wrong. The production function for scholarship cannot be written as the sum of two sub-functions, one producing "results" and the other "writing them up." The function is not separable. You do not learn the details of an argument until writing it up in detail, and in writing up the details you will often uncover a flaw in the fundamentals. Good thinking is non-tautological, accurate, symmetrical, relevant to the thoughts of the audience, concrete yet usefully abstract, concise yet usefully full, and above all self-critically honest. So too is good writing. People who write honestly and self-critically, trying to say what they mean, will often find that what passed for a truth when floating vaguely in the mind looks a lot like an error when moored to the page. Better still, they will discover truths they didn't know they had. They will refine, for instance, their notion of an obstacle to trade by finding the precise word to describe it, or they will see the other side of a market by writing about it symmetrically. Writing resembles mathematics. If mathematics is a language, an instrument of communication, so too is language a mathematics, an instrument of thought.

3.) *Rules Can Help, But Bad Rules Hurt*

Like mathematics, writing can be learned. One hears it said that writing is a natural gift, a free lunch from the gods. This is a poor, lazy excuse for ignorance. To be sure, we cannot all become George Orwells or Robert

3. See, however, the hostile dissection of the style of a passage from Keynes in Graves and Hodge (1943), pp. 332–340. It makes one wince.

Graveses, or even George Stiglers and Robert Solows. But everyone, top to bottom, can do better with a little effort. Elementary writing can be learned like elementary calculus. On the simplest level neither is inborn. Few people can prove fresh theorems in analysis, about as few as can write regularly for the *New Yorker*. Yet anyone can learn to take a first derivative, just as anyone can learn to delete a quarter of the words from a first draft. Like mathematics at the simplest level, good writing at the simplest level follows rules, algorithms for clarity and grace.

The rules, together with reflections that rules become silly if followed mechanically and that every rule can be broken for cause, have been written down in many scores of books on English style. Anyone who thinks about writing has favorites. I have three:

William Strunk, Jr. and E. B. White, *The Elements of Style*, NY: Macmillan, 1959 and later editions.

Robert Graves and Alan Hodge, *The Reader Over Your Shoulder: A Handbook for Writers of English Prose*, NY: Macmillan, 1943 and later editions.

Joseph M. Williams, *Style: Ten Lessons in Clarity and Grace*, Glenview, Ill.: Scott, Foresman, 1981.

I'll pay cash money, coin of the realm, to have the externality of bad economic prose internalized. Any economist who reads them will receive one shiny quarter by return mail.[4]

The first correct rule is that many of the rules we carry around from Miss Jones' class in the eighth grade are wrong. True, sometimes Miss Jones had a point. Dangling participles *do* dangle. But her class, and the folk wisdom that reinforced it, did damage. "Never repeat the same word or phrase within three lines," said Miss Jones, and because the rule fit well at age 13 with our emerging verbosity we adopted it as the habit of a lifetime. Now we can't mention the "consumer" in one line without an itch to call it the "household" in the next and the "decisionmaker" in the next, leaving our readers in a fog of elegant variation. "Never say 'I'," said she, and we (and you and I) have drowned in "we's" since, suited less to mere economists than to kings, editors, and people with tapeworms. "Don't be common; emulate James Fenimore Cooper; writing well is writing swell," said she—more by the way she praised Harry Whimple and his fancy talk than by actual

4. There are others. Some that I know and admire are Donald Hall, *Writing Well*; Richard A. Lanham, *Revising Prose*; Jacques Barzun, *Simple and Direct: A Rhetoric for Writers*; part III of Jacques Barzun and Henry F. Graff, *The Modern Researcher*; Paul R. Halmos, pp. 19–48 in Norman E. Steenrod, *et al.*, *How to Write Mathematics*; Sir Ernest Gowers, *The Complete Plain Words*. Curiously, in German and especially in French, I am told, such books are rare. The French believe that grammatically and idiomatically written French automatically yields clarity and elegance, a theory one encounters in weak writers of English, too. The mere following of rules of grammar and idiom certainly cannot yield clear and elegant English, perhaps because of its immense vocabulary. Even in French, wordpoor though it is, one doubts that it could.

precept—and in later life we struggled to attain a splendidly dignified bureaucratese.

Miss Jones ruled also against our urge to freely split infinitives. H. W. Fowler, who wrote in 1926 an amusing book on the unpromising subject of *Modern English Usage*, knew how to handle her: "Those who neither know nor care [what a split infinitive is] are the vast majority, and are a happy folk, to be envied by most. . . . 'To really understand' comes readier to their lips and pens than 'really to understand'; they see no reason why they should not say it (small blame to them, seeing that reasons are not their critics' strong point)."[5]

Miss Jones made us feel guilty, too, about using a preposition to end a sentence with. Winston Churchill, a politician of note who wrote English well, knew how to handle her, and the editor who meddled with a preposition-ended sentence: "This is the sort of impertinence up with which I will not put." Worst of all Miss Jones fastened onto our impressionable minds the terrible, iterative rule of Jonesian arrangement: "Say what you're going to say; say it; say that you've said it." It is a big problem in economic prose nowadays, perhaps the biggest. Most drafts of papers in economics consist mostly of summary, outline, anticipation, announcement, repetition, and review.

One cannot, in other words, trust everyone who sets up as a teacher of English. It is sad, for instance, to see the clumsiness of some books on style by and for scientists. Robert A. Day, *How to Write and Publish a Scientific Paper* (1979), is such a case. He quotes one Justin Leonard: "The Ph.D. in science can make journal editors quite happy with plain, unadorned eighth-grade level composition." (Day, 1979, p.5) Day tells what this is: no split infinitives, no prepositions at the end of sentences, no metaphors. He does not appear to have read Darwin or Haldane, not to mention A. Smith or F. Y. Edgeworth.

4.) *Be Thou Clear*

The one genuine rule, a golden one, or at least good gold plate, is Be Clear: As Christopher Morley said, "The rule of clearness is not to write so that the reader can understand, but so that he cannot possibly misunderstand." Clarity is a social matter, not something to be decided unilaterally by the writer, because the reader like the consumer is sovereign. If she thinks something you write is unclear, then it is, by definition. There's no arguing. Karl Popper, the philosopher, wrote:

> I . . . learned never to defend anything I had written against the accusation that it is not clear enough. If a conscientious reader finds a passage unclear, it has to be rewritten. . . . I write, as it were, with somebody constantly looking over my shoulder and constantly pointing out to me passages which are not clear (Popper, 1976, p. 83).

5. Fowler, 1965 (second edition), pp. 579–580.

Clarity differs from precision, and the one is often purchased at the cost of the other. Much economic obscurity comes from an excessive precision that hides the main point among a dozen minor ones. To a request for more clarity an economist will often respond with more mind-numbing details about his axioms or his diagrams, remarking proudly that "I believe in saying *exactly* what I mean." Though admirable the sentiment is naive. One cannot say *exactly* what one means, for this life has not time. A writer who tries to make the time will lose his readers.

In reading bad writing you must reread and stop and reread and stop. Repeatedly you are distracted from the point, made to ask half-conscious little questions about what the subject is now, what the connection might be with the subject a moment ago, why the words differ, why a figure of rhetoric that raised certain expectations did not fulfill the expectations. Bad writing makes slow reading. The practice of Graves and Hodge in compiling the data for their principles of Clear and Graceful Expression was "to glance at every book or paper we found lying about and, whenever our reading pace was checked by some difficulty of expression, to note the cause" (Graves and Hodge, 1943, p. 127). (The sentence itself, incidentally, illustrates one rule for speedy reading on which they could have done better: Do Not Overpunctuate.)

E. D. Hirsch, Jr. calls it readability, and marshals statistics and experiments to show how good writing achieves it.[6] Someone said that in most prose the reader is in trouble more than half the time. You can see the truth in this by watching your own troubles in reading. If you get in too much trouble you give up. Lack of clarity offends good taste, to be sure; it is vulgar to be obscure. But more important it is selfish and confusing and inefficient. The writer is imposing a deadweight burden of slowness. The writer is wasting your time. Up with this you need not put.

To be sure, easy reading like easy listening does not always make for good music. It is not too much to ask of the reader that he pay attention, which will require sometimes a deliberate slowing of the pace, a more complex way of speaking, even an occasional deliberate ambiguity. But more usually the slow pace, the complexity, and the ambiguity of economic prose arise from ignorance and carelessness, not from deliberate art. Very seldom would clearer writing in economics cost anything in art. When economic writers have finally reached the possibility curve between Clarity and Subtlety they can profitably begin to emulate Joyce or Eliot, trying for really splendid effects down at the Subtle end of the curve. But they've got some distance to go.

Telling someone who has not thought about it much to "Be Clear" is not much help. "It is as hard to write well as to be good." In the abstract the golden rule of writing helps about as much as the golden rule of other

6. See for example, p. 85f.

doings, of which it is a corollary. "All things whatsoever ye would that men should do to you, do ye even so to them." Well, yes. But how?

5.) *The Detailed Rules Are Numerous*

The answer can be put in a long list of admonitions and prohibitions. An economist who has not thought about his writing since the eighth grade will be stunned by how many there are. Consider, though, how long the books are on econometrics or constrained maximization or even FORTRAN. It is not remarkable that the complexities of manipulating a natural language equal these. Comfort yourself with the reflection—itself a piece of advice—that most advice about writing is actually advice about rewriting. You need not hold the bulk of the rules in your mind from the start, unlike rules about programming. If the centipede thought too much about how to do it he could not walk. As long as there is time and room, you can revise, noting the spots where the pace of reading is checked by some difficulty or where the ear is offended by some noise.

6.) *The Rules Are Empirical*

The rules come from empirical observation. We know that George Orwell wrote well, that we seldom have difficulty understanding what Edmund Wilson was talking about, that E. B. White seldom took a false step. As Johnson said of Addison, so too of these: "He who would acquire a good style should devote his days and night to the study of Orwell, Wilson, White, Barzun, Thurber, Hemingway, Twain, Kipling, Porter, Woolf, and Wolfe." In modern economics, on a rather lower level, the list would include Akerlof, Arrow, Boulding, Bronfenbrenner, Buchanan, Caves, Fogel, Friedman, Haberler, Harberger, Hirschman, Hughes, Galbraith, Gerschenkron, Griliches, Gale Johnson, Harry Johnson, Kindleberger, Lebergott, Leijonhufvud, Olson, Robertson, Robinson, Rostow, Schelling, Solow, Stigler, Tobin, and Tullock. The diminishing returns even in this list is sharp. Even economists who take some pains with their style will overuse "we," the passive voice, and soporific latinisms. But one cannot define good style without a list.

Good style is what good writers do. If Orwell and his kind use double negatives, no amount of schoolmarm logic should stand in the way of its imitation. In matters of taste—and everything from the standard of proof in number theory to the standard of usage in split infinitives is a matter of taste—the only standard is the practice of recognizably excellent practitioners.

There is some social science, perhaps, in this. Rules about double negatives, say, are usually defended on grounds of "logic." One might as well defend the placement of the dinner fork on grounds of logic. One can't. Language like ceremony has a grammar, but not a logic, if "logic" means "able to be settled once and for all." Although the grammar of polite behavior at present makes us put the fork on the left and avoid using locutions like "You don't have no class," the grammar is from an olympian standpoint

arbitrary. It is not timeless truth. The fork could come to be put on the right and the double negative could become standard (as it is in, say, French) without violating the laws of physics.

Yet we are mortals, not olympians, and among us, right now, it matters. That social customs are "arbitrary" in the timeless, logical sense does not make them arbitrary (or even foolish) in the timebound, social sense. In particular, it matters if the Queen puts her fork on the right and George Orwell does not use double negatives; it matters even more if Archie Bunker puts his forks on the other side and his negatives in the sentence twice. The custom is then a signal, much as a skillful mathematical derivation (even when entirely lacking in point) is a signal of intelligence in economics. We do not wish to be classed with the Archie Bunkers, or with the mathematical illiterates. If we behave like them we will be.

This is not altogether a matter of snobbery, that is to say, mere invidious social distinction designed to push the underprivileged out of the gates.[7] It is a signal, and has market value. Our reading is more efficient, if less equitable, if we sort by stylistic competence. The violation of social rules of clarity and grace signals incompetence. If double negatives begin to get used by writers who write well in other ways—who say true things, for instance, and say them plainly—then the double negative will lose its value as a signal of incompetence. Because the violations do in fact signal incompetence they are correlated with each other: it's a good bet that a writer who does not know how to express parallel ideas in parallel form, and does not care, will also not know how to avoid excessive summarization and anticipation; it is about as good a bet that he will not know how to think, and will not care.

What is more, many of the correlates of good and bad style are perfectly "objective," which is to say that lists of rules are not merely "one man's opinion." This is for two reasons. For one thing, as Hirsch and others have shown, the readability of writing can be shown to depend on measurable features of the psychology of reading. For another, beyond readability, the rules of taste are as definite as the rules of baseball. Competent players of the language game know them by heart. The competent writers, of course, write with competent readers in mind. The test of rules is excellent practice, and the test of practice is the sovereign reader.

7.) *Classical Rhetoric Guides Even the Economical Writer*

Essays are made from bunches of paragraphs, which are made from bunches of sentences, which are made from bunches of words. The rules about whole essays or paragraphs are most useful at the stage of first composition; the rules about sentences and words at the stage of final revision. Some apply everywhere: it is good to be brief in the whole essay and in the single word, during the midnight fever of composition and during the morning chill of revision. Brevity is the soul of clarity, too. Yet the rules of writing

7. But before dismissing snobbery entirely, though, see Aristides 1984.

can be stuffed if necessary into boxes by diminishing size from essay to word.

It is not so routine as this. Like advice on investing in stocks or on campaigning for Congress, if good advice on how to invent and arrange good economic ideas were easy to find we would all be Ronald Coases or Paul Samuelsons. This is why graduate programs are driven to teaching students how to be good readers of textbooks in theory or econometrics or history but do not teach them directly how to be first-rate economic scholars. If it were easy to teach students to be first-rate economic scholars there would be no second-rate economic scholars.

What is needed is some thinking about economic rhetoric. I do not mean by "rhetoric" a frill, or a device for deception, but its classic and correct meaning: the whole art of argument, the art, as Wayne Booth put it, "of discovering warrantable beliefs and improving those beliefs in shared discourse" (Booth, 1974, p. 59). The three important parts of classical rhetoric were Invention, Arrangement, and Style.

Invention, the framing of arguments worth listening to, is the business of economic theory and of empirical economics. They seem to be doing all right, though they have been impoverished by an unexamined official methodology (See McCloskey 1983).

Arrangement, too, is a part of economic rhetoric not much examined. A good deal of economic prose implies that the only proper arrangement of an empirical essay is Introduction, Outline of the Rest of the Paper, The Theory, The (Linear) Model, The Results, Suggestions for Future Research (since nothing ever works), and (again) Summary. One rarely sees experiments with alternative arrangements, such as dialogues or reports on the actual sequence of the author's discovery. Or at least one does not see them in print. In the seminar room, of course, the dialogue is the entire point, usually introduced by an apology reporting in sequence "how I actually came to this subject." Economists might try learning good Arrangement from their own behavior.

Robert Day's compendium of vulgar error, as cited, recommends of course a rigid arrangement for a scientific paper (Introduction, Materials and Methods, Results, Discussion). The Arrangement is in fact common in many sciences, an obstacle to scientific communication. It does not tell what needs to be known—which experiments failed, what mathematics proved fruitless, why exactly the questions were asked in the way they were (see Peter Medawar, "Is the Scientific Paper a Fraud?" *Saturday Review*, August 1, 1964). The most important scientific communication therefore gets done face to face. The pity is that more is not done in print. Print is more intellectually democratic: one does not need to be at Cal Tech to read.

8.) *You Too Can Be Fluent*

The third branch of rhetoric, namely, style, is easier to teach. It begins with mere fluency. No economist, even while instructing the young, has yet said anything about fluency. Unlike writers of fiction, who delight in tales

of writer's block and prodigies of pace, professors are reticent about how they stay fluent. Maybe they just haven't been asked. Here is one true confession on the mechanics of the matter, of some use perhaps to beginners wishing fluency.

You will have done some research (this is known as "thinking") and are sitting down to write. Sitting down to write can be a problem, for it is right then that your subconscious, which detests the anxiety of filling up blank pieces of paper, suggests to you that it would be ever so much more fun to do the dishes or go get the mail. Sneak up on it and surprise it with the ancient recipe for success in intellectual pursuits: locate chair; apply rear end to it; locate writing implement; use it.[8] Once planted at the desk, though, you will find your subconscious drawing on various reserves of strength to persuade you to stop: fear, boredom, the impulse to track down that trivial point by adjourning to the library.

The most troublesome distraction is taste. The trouble with developing good taste in writing is that you begin to find your stuff distasteful. This creates doubt. Waves of doubt—the conviction that everything you've done so far is rubbish—will wash over you from time to time. The only help is a cheerful faith that more work will raise even this rubbish up to your newly acquired standards. Once achieved, you can reraise the standards, and acquire doubt at a level of still better taste. Cheer and an irrational optimism are hard to teach but good to learn for any scholarly production.

The teachable trick is to get a first draft. Don't wait until the research is done to begin writing because writing, to repeat, is a way of thinking. Be writing all the time, working on a page or two here, a section there. Research *is* writing. You will have notes, bits of prose awaiting placement in a mosaic of argument. It helps to give each note a title, preferably a phrase stating its gist. Though any writing surface from clay tablet to CRT screen can hold the notes, white 4″ × 6″ cards lined on one side are best. Vladimir Nabokov wrote even novels with cards. This seems a bit much, but cards fit expository prose well. The smaller 3″ × 5″ cards are too small to hold a rounded idea, even if allowed to spill onto the back; the bigger 5″ × 8″ cards are too big to carry around while awaiting the moment of inspiration in the library or seminar or street. Use one idea per card, even if the idea is only a single line. Do not worry about the wasted paper.

Manila folders are nice. They can hold longer ideas, fuller outlines, bulkier computer output, and bigger bunches of cards. The American sociologist C. Wright Mills wrote an exhilarating essay in 1959 "On Intellectual Craftsmanship" in which he called the whole assemblage of cards, folders, and so forth The File: "You must set up a file, which is, I suppose, a sociologist's way of saying: Keep a journal. Many creative writers keep journals; the sociologist's [and economist's] need for systematic reflection demands

8. You may wish to increase the element of surprise by writing standing up to a tall desk, as my colleague Gary Fethke does.

it." (Mills, 1959, p. 196) It should become thick and rich, dumped out occasionally and rearranged.

Read through the file (which is Invention) trying to see an outline in it (which is Arrangement), at first quite a broad outline. Allocate the cards to related stacks; add cards reminding you of transitions and new ideas that occur as you ponder the File. If the outline does not come easily, write down a few words per card on a sheet of paper and try to see a pattern. Arrangement is like good empirical work, searching the data for patterns. Now set aside the broad outline. It will be revised as the work proceeds: nothing is written in stone.

Pick part of the broad outline to write about today. It need not be the beginning, though it is sometimes difficult to write first drafts any other way: preparations and back references are normally integral to the story, because readers normally read from beginning to end. List on a separate sheet the points to be made that are suggested by the cards. You need a certain intensity for all this. Writing cannot be done like peeling potatoes.

Write another outline, a narrow one, checking off points as you write (Arrangement is a matter of finding optimal outlines). Keep another piece of paper at hand to try out turns of phrase or to note down ideas that occur in advance of their use. Do not depend on memory alone. A phrase or word will jog it. Don't let the moment of insight pass.

9.) *You Will Need Tools, Tax Deductible*

You will therefore need several pads of paper on your desk at all times, with the outline sitting there, too, covered with supplementary notes, and your File standing in readiness at a distance. Do not worry about being neat: clean up in a dull moment. To repeat, do not save paper. Leave plenty of room on the paper for revision. Writing on both sides is bad economy, because it makes it impossible to cut up drafts or to add inserts in the simplest place, which is the back. View paper as working capital and remember that it is the marginal product of your mind that you wish to be paid for.

You will need certain other bits of capital in abundance. Pencils are in general better than pens, though it is good to shift media from time to time. You should find pleasure in exercising the tools of writing. An expensive and well balanced fountain pen is anachronistic, to be sure, but amusing to wield when the mood strikes. Indulge yourself, though try not to become anal retentive about equipment and procedures. Look on yourself as an honest-to-goodness professional writer (which, you see, you are) who can do any job on command anywhere with any equipment whatever, Ernie Pyle pecking out dispatches on a portable Olivetti from a fox hole.

Many people compose at a typewriter or in these latter days a CRT screen (the word processor eliminates any excuse for failing to bring one's style up to the best one can do). Some dictate into a tape recorder. A new medium will change style, perhaps for the better. Switching from medium to medium is interesting, because each suggests new ways of putting the matter. Pencil is forgiving, ink on paper less so, type still less, and recording

tape least of all. The word processor is at a different level entirely, a new and higher production function. It is pretty plain that any writer who does not use a wordprocessor is wasting a lot of time, though perhaps sparing the world some ill-considered fluency. Even bad typists find composing on wordprocessors almost excessively easy. The machines do not resist as much a typewriters, and are entirely forgiving of mistakes.

When using an unforgiving medium one's style will become serial, which may be good if it tends otherwise to overdecoration with insertion and adjective. It will tend in the unforgiving medium to be erroneous in detail and harder to rewrite. In hand writing always double or treble space: style in writing, as was said earlier and will be said again until you pay attention, is rewriting. One needs room to do it in. The wordprocessor, of course, solves this problem, too.

The next most important tool is a dictionary. Every place at which you read or write should have its own dictionary. A good one is *Webster's* (nearly all American dictionaries are "Webster's", which reduces the value of the signal to zero) *New World Dictionary of the American Language*, Second College Edition (William Collins and World Publishing, NY, 1976 and other editions). It is handsomely produced, does a good job at word origins, notes Americanisms (handy when writing to non-Americans), gives easy-to-follow pronunciation guides (handy when speaking to anyone), and distinguishes levels of usage. Shun the monstrous Merriam-Webster *Third Webster's International* and its evil college brood (*Webster's New Collegiate Dictionary* and siblings), belching illiteracies attested by quotations from *Newsweek*.[9]

A dictionary is more than a spelling list. Read the definitions and the etymologies. If you think "disinterested" means the same thing as "uninterested" you need to get acquainted with a dictionary right away, and read good prose with it at hand. Learn to like words, to be interested in them and to be amused by them, inquiring into their backgrounds. It is a useful friendship, a joy of life.

A thesaurus (Greek: "treasure") finds the precise word within a more or less fuzzy region of the language. Use a big one, not the pocket versions. If you are unskilled at assessing the treasure, then the *Webster's* [of course] *New Dictionary of Synonyms* may help, although the *Webster's New World Dictionary* makes room for such work, too. "Proper words in proper places, make the true definition of a style," said Dean Swift (Bartlett, 322:8). Dictionaries of quotations (Bartlett's, Oxford, Penguin) are worth having—not to extract ornamental remarks in the manner of the speaker at the Kiwanis Club, but to find the precise words within a more or less fuzzy memory:

9. My colleague Eleanor Birch recalls a reviewer's verse on The Third: "That I imply and you infer / Is clear to me; but don't refer / To Webster's Third, which may imply / It's all the same to you and I."

What exactly did the Dean say?[10] It is also a good idea to keep a personal book of quotations, important economic ideas expressed well. The thing is called a "commonplace book," not because it is plebian but because in classical rhetoric the commonly shared materials of Invention were called *loci communes*, literally "the common places," or "usual topics," "*koinoi topoi*" in Greek. Well kept, such a book can be the writer's journal of which Mills spoke. Simon James published his for economics, as *A Dictionary of Economic Quotations*, which contains much encouraging evidence that at any rate British economists know how to turn a phrase.

10.) *Keep Your Spirits Up, Forge Ahead, and The Like*

Now start writing. Here I must become less helpful, not because I have been instructed to hold back the secrets of the guild but because creativity is ineluctably scarce. Where exactly the next sentence comes from is not obvious. If it were obvious then novels and economics papers could be written by machine. If you cannot think of anything to say then perhaps your mind is poorly stocked with ideas, or perhaps you have been reading too much machine-made prose. The solution is straightforward: spend a lifetime reading the best our civilization has to offer, starting tonight with elementary Greek.

Anyway, say it. Saying it out loud will help. Don't write entirely silently or you will write entirely stiffly. Good modern prose has the rhythms of actual speech—good modern speech, that is, not the waffling obscurities of the Labor Department bureaucrat trying to lie about Black teenage unemployment or the cloudy generalities of the professor trying to conceal his confusion about exchange rates.

Regard the outline as an aid not a master. When you get stuck, as you will, look at the outline, revise it, reread what you have written, reread the last bit out loud, talk to yourself about where it is going, imagine explaining it to a friend, try to imitate some way of speaking that Dennis or Maynard had, write a sentence parallel to the one just written, fill out the idea.

Do not panic if the words do not come, and do not quit easily. Try changing the surroundings. Move to the library, block out noise with the earmuffs that ground personnel in airports wear, visit the fridge, sharpen a pencil. Don't expect to write with the ease of a Harry Johnson all the time. Like any sort of thinking, writing sometimes flares and sometimes fizzles, like a fire. When on a burn, though, do not break off. Do not let anyone entice you into watching a movie on TV; tell the baby to go away; resist going for a snack. Be

10. Lack of precision in such matters will place you with the Florida football player who on the eve of the Florida State game recalled the Good Book's admonition to "do unto others what they would like to do unto you." Not so bad after all, I suppose. Compare Demosthenes, First Olynthiac, section 24. Robert Day's book, a compendium of what not to do, follows of course the Kiwanian practice. The chapters are adorned with mottoes lifted unprocessed from *Bartlett's Familiar Quotations* ("Chapter 12: How to Design Effective Tables" begins with Bret Harte, "I reside at Table Mountain").

selfish for a while about the little candle of creation you are tending, however poor it may seem beside the conflagrations of the giants.

Keep the finished manuscript in some form handy for frequent rereading and revising. A looseleaf ringbinder is good, since it can be added to easily and is hard to misplace even on a crowded desk. Replace the written manuscript in the binder with a typed one and keep working on it. Richard Lanham has some good advice:

> The typewriter distances prose and it does it quickly. By depersonalizing our priceless prose, a typescript shows it to us as seen through a stranger's eyes.... No single bad writing habit is so powerful as the habit of typing an essay only when you are ready to turn it in. Correct the handwritten manuscript by all means, but then type a draft and revise that." (Lanham, 1979, p. 54).

When dull, and especially when starting a session, reread a big chunk of the draft, pencil in hand (now more definitely a pencil, or a pen of another color if a typist is involved) to insert, amend, revise, correct, cancel, delete, and improve.

At the end of a session or at any substantial break always write down your thoughts, however crude, on what will come next. Write or type the notes directly onto the end of the text, where they can be examined and crossed off as used later. A few scraps will do, but will save half an hour of warming up when starting again. Jean Piaget, a titan of psychology—although not, it must be admitted, much of a stylist—remarked once, "It's better to stop in the middle of the sentence. Then you don't waste time starting up." (Bringuier and Piaget, 1980, p. 1) Paul Halmos urges the mathematical writer to plan the next session at the end of the present one (Halmos, 1973, p. 28). After a session of writing the ideas not yet used stand ready in the mind, and one should get them onto that ideal storage medium, the piece of paper.

So much there is to writing a first draft, and so much can be taught of Invention and Arrangement.

11.) *Speak to an Audience of Human Beings*

But Style, to repeat, is rewriting, and rewriting can be learned in subrules. Rewriting can be tiresome. The myth of the free lunch to the contrary, good or even adequate writing is easy for few writers, and some of the best writers work at it the hardest, working to make less work for the reader. Hemingway said, "Easy writing makes hard reading." Actually, much of rewriting is pleasant and not excessively hard once you are equipped with a technique for doing it skillfully. Rewriting does not have at least the anxiety of Invention and Arrangement, that you will be unable to produce anything at all.

The first of the sub-rules of Style at the level of the essay as a whole will be obeyed by looking right into the eye of your audience. Be honest with them. Ask who they are, aim the draft towards them, and keep hauling yourself back to facing them in revisions.

Pick a reader to ride and ride all the way with him. Economic writers too

often will swap and reswap horses in midstream. The trick is dangerous and in a technical sense inefficient. An article using the translog production function wastes motion if it rederives the elementary properties of a Cobb-Douglas production function. No one who has gotten so far into such an article will be innocent of Cobb-Douglas. The writing mixes up two mutually exclusive audiences. It is inefficient to spend the space on matters that the only reader remaining on the scene will skim over with glazed eyes and vexed heart. Economic historians write a little better than the average economist. Yet about half the manuscripts received by the *Journal of Economic History* over the past five years, especially those written by younger writers, have had this fault of inefficiency in audience.

The rule is to pick someone to write for. Some find it best to pick an Implied Reader of imagination, an ideal economist; others find it best to pick a real person, such as Charles Kindleberger or good old Professor Smith or the colleague down the hall. It is a healthy discipline to be haunted by people with high standards (but some sympathy for the enterprise) looking over your shoulder in imagination; and it keeps the prose steady at one level of difficulty to imagine one master spirit.

Halmos agrees, though he remarks wisely that if you choose some particular person "it becomes tempting to indulge in snide polemic comments and heavy-handed 'in jokes'" (Halmos, 1973, p. 22). The temptation should be resisted, since you have other people in the audience, too, an audience that may be offended by attacks on those incredibly old economic historians or those astonishingly naive set theorists outside the present company. The choice of audience determines who you are going to be in the essay, what rhetorical stance or authorial persona you are going to adopt: the Earnest Scientist, the Reasonable and Modest Journeyman, the Genius, the Math Jock, the Professor, the Breezy Journalist.[11] You cannot abstain from choice. Abstention merely means that you make the choice unthinkingly.

12.) *Avoid Boilerplate*

A related piece of advice is that the writing must be interesting. This sounds harshly difficult. When in society we all doubt that anyone finds us the least bit interesting, as we doubt, too, that we are pretty or handsome (unfortunately, few in academic life have doubts that they are intelligent and well educated). But one can avoid some dullnesses by rule. Choosing oneself as the audience tends to dullness, since most of us admire uncritically even the dullest products of our own brains, at least in the vanity room

11. I, for instance, am adopting a persona of the Sharp Tongued Old Professor, because my intended audience—the rest of you are free to stay—are American economists early in their careers who are receptive to such stuff. An audience of undergraduates would warrant the persona of a Breezy (and Slightly Nitwitted) Journalist (or so one gathers economists think from the way they write textbooks). Established economists would warrant a less didactic and more condemnatory persona, in the style of many books on style (see Edwin Newman, *Strictly Speaking*, for a popular instance).

of the study. Rederiving marginal product in Cobb-Douglas without mixing up the exponents strikes its author as a remarkable intellectual achievement. But Charles Kindleberger or good old Professor Smith or the colleague down the hall probably don't agree. Spare them. Restatement of the well known bores the readers; overelaboration bores the readers; excessive introduction and summary bores the readers. These are busy professionals, not amateurs in economics with time on their hands and unlimited toleration. The typical reader is not your mother, and even mothers have trouble with economic writing. Get to the point that some sceptical professional cares about and stick to it.

Therefore, avoid boilerplate. Boilerplate in prose is all that is prefabricated and predictable. It is stale drivel, lamentably common in economic prose. Excessive introduction and summarizing is one example; another is redoing for N separate cases what can be done with a single well-chosen one. The academic pose of which Mills spoke inspires boilerplate. Econometric chatter copied out of the textbook, rederivations of the necessary conditions for consumer equilibrium, and repetition of hackneyed formulations of the theory accomplish little. Explaining a model of efficient capital markets by writing for the thousandth time "P_t given I_t, where I_t is all the information" does not advance understanding. If it didn't much help make Eugene Fama's work clear when he first uttered it, why suppose it will enlighten someone now?

Such is the prestige of Theory that a young economist will sacrifice any amount of relevance and clarity to show that he can take it, make it, and make it up. The result is filigreed boilerplate. The economist will write about the completeness of arbitrage as follows: "Consider two cities, A and B, trading an asset, X. If the prices of X are the same in market A and in market B, then arbitrage may be said to be complete." The clear way to do this does not wear the emblems of "theory" on its sleeve: "New York and London in 1870 both had markets for Union Pacific bonds. The question is, did the bonds sell for the same in both places?"

The received outline of The Scientific Communication breeds boredom and boilerplate. Spurn the received outline. Never, for instance, start a paper with that universal hook of the bankrupt imagination, "This paper. . . ." Describing the art of the hook in the short review, Jacques Barzun and Henry Graff note that "the opening statement takes the reader from where he presumably stands in point of knowledge and brings him to the book under review" (Barzun and Graff, 1970, p. 272). "This paper" does not take the reader anywhere (so never start a book review with "This book. . . ."). A paper showing that monopoly greatly reduces income might best start:

> Every economist knows by now that monopoly does not much reduce income [which is where he presumably stands in point of knowledge]. Every economist appears to be mistaken [thus bringing him to the matter under review].

It bores the reader to begin with "*This paper* discusses the evidence for a large effect of monopoly on income." The reader's impulse, fully justified by the tiresome stuff to follow, is to give up.

Another piece of boring boilerplate, and one which kills the momentum of most economics papers on the second page, is the table-of-contents paragraph: "The outline of this paper is as follows." Don't. Most readers skip to the substance, if they can find it, but the few who pause on the paragraph usually cannot understand it, because it usually has been written with no particular audience in mind, least of all the audience of first-time readers of the paper. Even when done well the table-of-contents paragraph lacks point. You will practically never see it in good writing, unless inserted by an editor who doesn't know how to write. Weak writers defend it as a "road-map." They get the idea from the advice from school: "Tell the reader what you're going to say. Say that you've said it." It's bad advice.

The writer who truly wishes to be clear does not clot his prose with traffic directions, but thinks hard about arrangement. Use headings if you wish, especially ones with declarative sentences advancing the argument, like the ones used here. But your prose should read well and clearly without the headings.

13.) *Control Your Tone*

The tone of the writing and much of its clarity depends on choosing and then keeping an appropriate persona, the character you pretend to be while writing. Again, there is no way out of a choice: you can't just "be yourself," though the best persona, unless you are crabbed, humorless, and nasty, is someone like you. Writing, like teaching, is a performance, a job of acting. Out of stage fright, mainly, economic writers overuse the pompous and unintelligible persona of The Scientist. Consider C. Wright Mills's discussion of the problem of writing sociology in the 1950s, not inapplicable to writing economics now:

> Such lack of ready intelligibility, I believe, usually has little or nothing to do with the complexity of subject matter, and nothing at all with profundity of thought. It has to do almost entirely with certain confusions of the academic writer about his own status . . . [Because the academic writer in America] feels his own lack of public potion, he often puts the claim for his own status before his claim for the attention of the reader to what he is saying . . . Desire for status is one reason why academic men slip so readily into unintelligibility . . . To overcome the academic *prose* you have first to overcome the academic *pose*. It is much less important to study grammar and Anglo-Saxon roots than to clarify your answer to these important questions: (1) How difficult and complex after all is my subject? (2) When I write, what status am I claiming for myself? (3) For whom am I trying to write? (Mills, 1961, p. 218f.)

In other words, it is lack of confidence that spoils academic writing. The pose of This-Stuff-Is-So-Complex-That-I-Can't-Be-Clear is usually strained when not a lie. It's really not that difficult to explain a Malthusian demographic model or a rational expectations model in plain words to smart

people willing to pay attention. And a reader of a professional journal is smart and willing. Above all, in other words, one must decide to be understood, and worry some other time about being loved. One must not try to impress people who already understand the argument (they will not be amused), but try to explain it in a reasonable tone to people who do not now understand.

Tone of writing is like tone of voice. It is personality expressed in prose. The worst mistake is to be unpleasant: if you yell at people they will walk away, in reading as at a cocktail party. For instance, avoid invective. "This is pure nonsense," "there is absolutely no evidence for this view," "the hypothesis is fanciful" are fun phrases to write, deeply satisfying as only political and intellectual passion can be, but they arouse the suspicion in any but the most uncritical audience that the argument needs a tone of passion to overcome its weakness. Tone is transmitted by adverbs and adjectives. To mention the worst, run your pen through every "very" (or tell your word processor to flag it). Most things aren't very. "Absolutely," "pure," and the like are the same: most things aren't absolute or pure, and to claim that they are conveys an hysterical tone.

Even if you are in fact dogmatic and intolerant, it will be less wearisome for the reader if you will let some doubt enter your way of speaking. Screaming is not speaking well. To parody some otherwise excellent economists, who are in fact unusually undogmatic and tolerant, but have poor control over their tone:

> Some foolishly infer that the best, cleverest, and most *persuasive* way of making a case for private-property, free-enterprise market economies as against *stupid* communism is via throwing invective at those who, contrary to *all* historical evidence that has *ever* been assembled on the point, naively believe in virtues of dictatorial socialism! (Economics is of course a positive Science that does not offer moral judgments.) This opinion of some people *ignores* reality and arises from their *self-interest*.

It has been said that "to air one's views gratuitously . . . is to imply that the demand for them is brisk" (Strunk and White, 1959, p. 66). And to air them intemperately reduces whatever demand there is. A comical example of what can go wrong with verbal abuse is: "These very tendentious arguments are false." The writer meant "tenuous," but even had he said so the "these" gives the reader the fleeting and hilarious impression that it was the writer's arguments, not the victim's, that are being characterized. Tendentious they are.

Wit compensates for tendentiousness, as is apparent in the literary careers of H. L. Mencken and George Stigler. Mencken's railings against the boobocracy, or Stigler's against the bureaucracy, are made less tiresome by rhetorical coyness, ducking behind self-repudiating exaggeration or arch understatement. Readers allow such writers more room to be opinionated because the opinions are so amusingly expressed.

Most academic prose could use more humor. There is nothing unscientific in self-deprecating jokes about the sample size, and nothing unscholarly in dry wit about the failings of intellectual opponents. Only third-rate scholars are so worried about the Academic Pose that they insist on their dignity. The rich laboratory humor of economic science—Griliches's Law that more than five variables in a cross section yields garbage, for instance—should find its way into articles. Maybe it would drive out the tiresome "widgets." In the uncomfortable little jokes about themselves economists reveal forbidden thoughts worth pursuing.

Robert Solow should be followed in this. He is aware of what he does, and how it contrasts with the usual denatured tone of articles in economics:

> Personality is eliminated from journal articles because it's felt to be 'unscientific.' An author is proposing a hypothesis, testing a hypothesis, proving a theorem, not persuading the reader that this is a better way of thinking about X than that. Writing would be better if more of us saw economics as a way of organizing thoughts and perceptions about economic life rather than as a poor imitation of physics (Solow, February 27, 1984).

14.) *Paragraphs Should Have Points*

So much for the essay. The paragraph, then. Paragraphing is punctuation, similar to lines in poetry. You will want occasionally to pause for various reasons, shifting emotional gears perhaps or simply giving your passenger a break. The reader will skip around when his attention wanders, and naturally skips to the next paragraph. If your paragraphs are too long (as they will be if you do not watch closely your wordprocessor) the reader will skip a lot to get to the next break. The paragraph should have a single point. The one I've just written, for example, doesn't.

Paragraphs, like sentences, and for the same reason, should not be too short too often.

Short paragraphs give a breathless quality to the writing.

Newspaper writers, especially on the sports page, often write in one-sentence paragraphs, for a cheap thrill.

The usual paragraph should be long enough to complete a thought, short enough to give the reader some visible hope of relief, and middling enough not to look odd alongside its fellows.

Big quotations (in a block if more than eight typed lines) have two legitimate jobs. First, they can give the devil his due. If you plan to rip to pieces a particular argument, then you must quote it in full, to give at least the impression of being fair. But mild criticism cannot follow a big quote: you must indeed rip it to pieces, word by word. Otherwise the reader feels that the effort of settling into a new style has not been worthwhile. Second, block quotations can give an angel his voice. If Armen Alchian said something strikingly well with which you entirely agree, then you do not hurt your case by repeating what he said, and gain from his authority. Routine explanations do not belong anywhere, whether in brief or short quotations.

They convey the impression that you think with your scissors, and not very well at that.

15.) *Make Tables, Graphs, and Displayed Equations Readable*

The wretched condition of tables and graphs in economics shows how small is the economist's investment in expression. The main point is that tables and graphs are writing, and the usual rules of writing therefore apply. Bear your audience in mind. Try to be clear. Be brief. Such precepts have not guided a table of twenty regressions spread over two pages, with columns labeled "LBLB" and "DLBL." The author should synthesize the results, not dump them in a glob on the reader. Don't worry: no one will be upset if you do not give every one of the twenty specifications of an equation with fifteen variables you fitted to series with ten observations. They are not about to cast the first stone. You should always ask, "Is this entry necessary? Would I dribble on in a similar way in prose or mathematics?" No reader wishes to have the annual figures of income between 1900 and 1980 when the issue in question is the growth of income over the whole span. And if he is discriminating the reader will not want statistics in a number of significant digits more than they in truth have. The eight digits generated by the computer are irrelevant: the elasticity is about $3^1/_7$ not 3.14159256.[12] Titles and headings in tables should be as close to self-explanatory as possible, a rule that guides some book publishers and should guide more journal publishers. Use words in headings, not computer acronyms requiring another step of translation by the reader.

The same principles should guide graphs and diagrams. Edward R. Tufte's recent book, *The Visual Display of Quantitative Information* is a good guide, with such precepts as "Mobilize every graphical element, perhaps several times over, to show the data" (Tufte, 1983, p. 139; Tufte is not to be taken as a guide to prose). Use titles for diagrams and for tables that make the point, such as "All Conferences Should Happen in the Midwest" instead of "A Model of Transport Costs." Use meaningful names for lines, points, and areas, not alphanumeric monstrosities: "Rich Budget Line" instead of "Locus QuERtY."

So too for displayed equations. It is much clearer to say "the regression was Quantity of Grain = 3.56 + 5.6 (Price of Grain) − 3.8 (Real Income)," than "the regression was $Q = 3.56 + 5.6P - 3.8Y$, where Q is quantity of grain, P its price, and Y real income." Anyone can retrieve the algebra from the words, but the reverse is pointlessly harder. The retrieval is hard even for professional mathematicians. Halmos said: "The author had to code his thought in [symbols] (*I deny that anybody thinks in [such] terms*), and the reader has to decode" (Halmos, 1973, p. 38; italics mine). Stanislav Ulam, with many other mathematicians, complains of the raising of the symbolic ante in recent years: "I am turned off when I see only

12. The point is widely misunderstood. Read Oskar Morgenstern, 1963, pp. 8–9.

formulas and symbols, and little text. It is too laborious for me to look at such pages not knowing what to concentrate on" (Ulam, 1976, p. 275f). Tables, graphs, diagrams, and displayed equations should elucidate the argument, not obscure it.

16.) *Footnotes Are Nests for Pedants*

A footnote should be subordinate. That is why it is at the foot. In academic writing, however, the most important work often gets done in the small print at the bottom of the page. The best sustained example in economics is Schumpeter's *History of Economic Analysis*, in which the liveliest prose and the strongest points occur towards the end of footnotes spilling over three pages. The best single instance I know is a rightly famous paper by Dale Jorgenson, "The Embodiment Hypothesis," which buries the (brilliantly simple) main point in a footnote, showing, namely, that the duality of price and quantity measures of productivity change arises from the accounting identity that revenues from output equal expenditures on inputs (Jorgenson, 1966, p. 3f). Footnotes should not be used as a substitute for properly organizing the text. If the idea does not fit maybe it does not belong. Cluttering the main text with little side trips to the bottom of the page or, in this age of penury in publishing, the back of the book hundreds of pages from where the reader stands, breaks up the flow of ideas, like the footnote[13] attached to this sentence.

Footnotes, then, are sometimes misused to provide organization where it is not. They are also misused to provide authority where it is not. Pedantry governs the ugly little world of footnotes, especially in footnotes by the young (the old are by now unable to find the citations anyway). Footnotes should guide the reader to the sources. That is all. When they strain to do something else something usually goes wrong. It is pedantic to use them to display one's erudition, and, especially hazardous to try to display it when one doesn't have any, the modal condition of the young. The attempt to assume the mantle of The Scholar looks foolish when the best one can do is cite the textbook. Citing whole books and articles is anyway a disease in modern economics, arising from pretension combined with sloth, an ugly combination, and encouraged by the author-date citation, such as that used by this journal. It is easier for the author to write "See *The General Theory*" than to bother to find the page and sentence where Keynes, fatally, adopts the mistaken assumption of a closed economy. And by not bothering the author misses the chance to really know whether Keynes did.

13. Inviting the reader to look away is not wise. And practically never is it a good idea to do what this note does, breaking a sentence. The place for distractions, if anywhere, is the end of a sentence or, better, the end of a paragraph. But chiefly you should avoid distracting the reader. This footnote should have been woven into the text, if it said anything, which it does not. An extended and most amusing footnote on the matter, viewing it more cheerfully, is G. W. Bowersock, 1983/84.

17.) *Make Your Writing Cohere*

Behind such rules on what to avoid in paragraph-length slugs of prose in tables, graphs, footnotes, and paragraphs themselves lies a rule on what to seek. It is the Rule of Coherence: make writing hang together. The reader can understand things that hang together, from phrase up to book. He cannot understand things filled with irrelevancies.

Look again at the paragraph I just wrote. It is no masterpiece, but you probably grasped it without much effort. The reason you did (aside from the simplicity the ideas expressed) is that each sentence is linked to the previous one. The first promises a "rule." The second names it, repeating the word "rule"; after the colon the next sentence (which is what it is, functionally) delivers on the promise of the name, using the phrase "hang together." The next tells why it is a good rule, reusing "hang together" and introducing a character called "the reader," saying that he "can understand" certain "things." The final sentence emphasizes the point by putting it the other way, saying what *things he* [the same] can *not understand*. The paragraph itself hangs together, and is easily grasped by the mind.

Its structure is (AB)(BC)(CD). Note the linkages of repetition. Economists would call it "transitive" writing. To write like this you must violate blatantly the schoolmarm's rule of not repeating words. Verily, you *must* repeat them to link sentences, using pronouns like "it" or "them" to relieve monotony. The linkages can be tied neatly, if not too often, by repeating words with the same root in different versions (the figure is called in classical rhetoric "polyptoton") as was just done with the verb "link" in the previous sentence and the noun "linkages" in this. There are other tricks of cohesion.

If you draw on the tricks you will be less likely to fill your prose with irrelevancies: (AB)(BC)(CD) looks pretty, is easy to understand, and is probably reasonable; (ABZYX)(MNOP)(BJKLC) looks ugly, is impossible to understand, and is probably nonsense. A newspaper editor once gave this advice to a cub reporter: "It doesn't much matter what your first sentence is; it doesn't even much matter what the second is; but the third damn well better follow from the first and second." If you once start a way of talking—a metaphor of birth or a tone of patient explanation—you have to carry it through, making the third sentence follow from the others. You must reread what you have just written again and again, unifying the tenses of the verbs, unifying the vocabulary, unifying the form. That's how to get unified, transitive paragraphs.

Yet, a clumsy way to get transitive paragraphs begins each sentence with a linking word. Indeed, good Latin prose in the age of Cicero had invariably this feature. Furthermore, Greek had it, even in common speech. In English, however, it is not successful. Therefore, the Ciceronian and Hellenic adverbs are untranslatable. To be sure, the impulse to coherence is commendable. But on the other hand (as must be clear by now), one tires of being ordered about by the writer, told not only when you are to take a

sentence illustratively ("indeed"), but also adversatively ("however"; "but"), sequentially ("furthermore"; "therefore"), or concessively ("to be sure"), pushed to and fro by clanking machinery like "not only . . . but also." The impulse to introduce a machinery of outlining and summarizing has similar results. It is not the genius of English. English achieves coherence by repetition. Repeat, and your paragraphs will cohere.

18.) *Use Your Ear*

Rhythm is important, too. Listen for it. If every sentence is the same length and construction the paragraph will become monotonous. If you have some dramatic reason for repeating the construction the repetition is good. If you have no good reason for doing so the reader will feel misled. If you talk always in sentences of precut form the paragraph will have a monotonous rhythm. If you have been paying attention recently the point will have become clear enough.

John Gardner gave some good advice on handling a variety of sentences (Gardner, 1984, p. 104f). Become self-conscious, he said, about what you're cramming into each part of the sentence. Grammatically speaking an English sentence has three parts: subject, verb, object. Thus: subject = "an English sentence"; verb = "has grammatically speaking"; object = "three parts: subject, verb, object." Vary your sentences by how much you put into each part (subject (in this one: absent but understood = "you"); verb ("vary") complexly modified by "how much you put in each part"; object quite simple, though not as simple as the subject). Gardner, who wrote novels, too, uncovered with his simple principle of the three sentence parts which we have just discussed and could discuss more if it were a good idea, which it is not, the graceless rhythm that results from an overburdened sentence such as this one, in which every part has much too much in it, which exhausts the reader. It can ruin a whole paragraph.

19.) *Avoid Elegant Variation*

Which leads to the sentence. The first duty in writing a sentence is to make it clear. The way to make it clear is to use one word to mean one thing. Get your words and things lined up and keep them that way. The positive rule is Strunk and White's: "Express parallel ideas in parallel form." (An example will be given in the next sentence.) The negative rule is Fowler's: "Avoid Elegant Variation." The two ideas are parallel and are expressed in parallel form: "*The positive rule is* Strunk and White's" leads the reader to expect "*The negative rule is* Fowler's." The reader knows what to expect. He can fit the little novelties into what he already knows.

Elegant Variation uses many words to mean one thing, with the result that in the end no one, not even the writer, really knows what the thing is. A paper on economic development used in two pages all these: "industrialization," "growing structural differentiation," "economic and social development," "social and economic development," "development," "economic growth," "growth," and "revolutionized means of production." With some

effort one can see in context that they all meant about the same thing. The writer simply liked the sound of the differences, and had studied elegance too young. A writer on economic history wrote about the "indifferent harvests of 1815 and calamitous volume deficiencies of 1816." How long did it take you to see that both refer to how bad the crops were? Notice that in these cases, and in most, the Elegant Variation comes draped in five-dollar words ("growing structural differentiation" = new jobs in manufacturing; "calamitous volume deficiencies" = very bad crops).

Some people who write this way mistake the purpose of writing, believing it an occasion for display. They should realize that the eighth grade is done. Most do it out of mere ignorance that parallelism is a virtue, as in this example: "the new economic history is concerned not only with what happened but also with why events turned out as they did." A good writer can hear something wrong, the logic being that the reader thinks fleetingly that "what happened" and the "events [that] turned out as they did" are different things, and must give thought to whether they are. This is what is wrong with Elegant Variation. If the reader's attention strays a little—and it is always straying, a lot—he will come away from the sentence without knowing what it said, which is: "the new economic history concerns not only what happened but why it happened."

20.) *Check and Tighten, Rearrange and Fit*

The pursuit of parallelism and the avoidance of elegant variation, like other rules of rewriting, do not make the writer's life easy. But easy writing, remember, makes hard reading. Samuel Johnson said, "What is written without effort is in general read without pleasure." Like effort in any work, such as sewing or auto repair, you must check and tighten, check and tighten. In short sessions the exercise of such craft should come to please you. It is good to do something well. The tight, neat seam in a dress or the smooth, clean joint in a fender revive the spirit worn from the effort. Still, before the end it is tiring, and the result will seem too obvious. Do nouns and verbs link successive sentences? Have I used one word to mean one thing? Have I used parallel forms to emphasize parallels of ideas? Check and tighten.

The care extends to tiny details. For instance, you must choose repeatedly whether to carry over words from one construction to its parallel. It's either "the beautiful and *the* damned" or "the beautiful and damned." Such choices will occur hundreds of times in a paper if written in lucid parallels. Fitzgerald, seeking elegant variation, could have written "the beautiful folks and those people who are damned," in which case the choice would not have been posed, and you would probably never have heard of F. Scott Fitzgerald. Other tools to line up word and thing are singulars and plurals, masculines and feminines. Unlike the inflected Latin and Anglo-Saxon from which it descends, English does not have cases and gender to keep related words hitched. Make use of what paltry resources we have. The following sentence, for example, is ambiguous because "them" can refer to

so many things: "*Owners* of the original and indestructible powers of the soil earned from *them* [powers or owners?] pure rents, and that tenant farmers were willing to pay *them* [the rents? the owners? the powers?] indicates that these powers of the soil were useful." The singular and plurals here are not essential to the meaning, and so they can be exploited to make it clear: "*An owner* of the 'original and indestructible powers of the soil' earned from *them* [now unambiguous because it agrees with the only plural referent available: the powers] pure rents, and that the tenant farmers were willing to pay *him* [unambiguous: the owner] indicates that these powers of the soil were useful." The use of "she" alongside "he" can in like fashion become an advantage for clarity of reference as much as a blow for sexual equality. Capitals are advantageous, too: you make a word into a Proper Noun by capitalizing it, which is useful for reference and especially for reference to a Point in a diagram.

The inflected languages have more freedom of order than English. *Homo canem mordet* means the same thing as *canem mordet homo*, with only a difference of emphasis, but "man bites dog" and "dog bites man" are news items of different sorts. Yet much can be done with the order of an English sentence. With the order of an English sentence much can be done. It's mainly a matter of ear: proper words in proper places. Tinker with the sentence until it works. The problems come with modifiers, especially with adverbs, which are free floating in English. The phrase "which is *again merely* another notation for . . ." should be "which *again* is *merely* another notation for . . ." Moving the "again" prevents it from piling up against the other modifier. Or: "the elasticities are *both with respect* to the price" should be "both elasticities are with respect to the price."

You should cultivate the habit of mentally rearranging the order of words and phrases of every sentence you write. Rules, as usual, govern the rewriting. One rule of arrangement is to avoid breaking the flow with parenthetical remarks. Put the parenthetical remark at the end if important and at the beginning if not. Another rule is to delete as many commas as you can. Many people think that one must hedge off all preliminary remarks with commas. When applied too enthusiastically the excess comma results in the subject being hedged off from the predicate. In revision the trick is to delete any comma before "the," as I just did after "In revision": the "the" signals a new phrase quite well enough without the clunk of a comma.

The most important rule of rearrangement is that the end of the sentence is the place of emphasis. I wrote the sentence first as ". . . is the emphatic *location*," which put the emphasis on the word "location." The reader leaves the sentence with the last word ringing in his ears. I wished, however, to emphasize the idea of emphasis, not the idea of location. So I rewrote it as ". . . is the place of *emphasis*." You should examine every sentence to see whether the main idea comes at the end—or, secondarily, the beginning. Dump less important things in the middle. A corollary of the rule is that putting trivial things at the end leads to flaccidity. It would be grammatical

to write "that putting trivial things at the end leads to flaccidity *is a corollary of the rule.*" Yet it shifts the emphasis to something already finished, *the rule*. The clear way puts the emphasis on the novelty, the idea of *flaccidity*, by putting it at the end.

Rearrangement serves grace as well as clarity. It doesn't hurt to have a good ear, to be able to recognize a clumsy sentence that needs reworking. But the ear can be trained by exercise. For one thing, read Orwell and the rest, not as an assignment but for pleasure. Your ears should ring with phrases from the literature of our tongue. Close study of *Time* and the *Wall Street Journal* does not suffice as an education in literacy. For another, read your sentences out loud. Listen for unintentional rhymes (at times your lines will chime); listen for sentences that are monotonously long or short; listen for stragglers, as from That foolish young man of Japan,/ Whose limericks never would scan./ When asked why it was / He replied, "It's because/ I always try to get as much into the last line as I ever possibly can." Adding one more idea at the last minute causes straggling, which comes even in a perfectly grammatical sentence like the present, making the sentence hard to read, which will cause the reader to stop reading after he has tried a couple of sentences like this one, which straggle, straggle, straggle. Remember Gardner's rule of subject, verb, object. The weight of the sentence should be at the end, although the rule will often conflict with the rule of putting the important matter at the end. At a minimum you should be aware of weight and try it out on different portions of the sentence. The success of those eighth-grade ornaments, the doublet and the triplet, depends critically on shifting weight to the end: "Keynes and the Keynesians' works, The Keynesians and Keynes" does not; "faith, hope, and charity" works, "charity, faith, and hope" does not.

Doublets and triplets are juvenile when overused. The writer addicted to them can probably be saved, because he knows at least that words are forces for good or ill. But you cannot use the rhetorical triplet more than once on a page unless you are Edward Gibbon, or at least Tom Wolfe. Economists do not overuse doublets too much. If they do, they do it because they believe and feel incorrectly and unthinkingly that two or a pair of ideas or phrases are more accurate or more elegant than a single and solitary one. It is more commonly an affectation of the literati, among whom economists do not normally travel, to claim such delicacy of sensitivity that no single English word is quite capable of hitting the target. George Steiner, who has an otherwise brilliant style and penetrating mind, writes unreadable books because he says everything twice. Words in modern English style should come out of a rifle, not a shotgun.

21.) *Should* You *Use Rhetorical Questions?*

Don't you agree that another piece of eighth-grade elegance is the rhetorical question? Isn't it easy to overuse it? Doesn't it add an air of contrived drama to the prose? Isn't it a clumsy device for transition to a new subject? Isn't it a cheap way of organizing the disorganized? Doesn't it chop up the

paragraph? Don't you wish I would stop? James Thurber wrote of a fellow student of journalism at Ohio State with limited gifts, whose every sentence was dull. Ordered by his editor to start "snappily" on a story about the university horse barn, he chose of course that snappiest of figures: "Who has noticed the sores on the tops of the horses in the animal husbandry building?"

22.) *Use Verbs, Active Ones*

You should make sentences that hit the target in the middle. Write therefore with nouns and, especially, verbs, not with adjectives and adverbs. Carry a rifle. In revision the adjectives and adverbs should be the first to go. As Sydney Smith said, "In composing, as a general rule, run your pen through every other word you have written; you have no idea what vigour it will give to your style (Bartlett, 433:14)." He might have followed his own advice more fully, and would have done so if writing nowadays: "Run your pen through every other word; you have no idea what vigour it will bring." Use active verbs: not "active verbs should be used," which is cowardice, hiding the user behind a screen. Rather: "you should use active verbs." Or use the imperative, as here, which is especially useful for taking a reader through mathematical arguments: "then divide both sides by x" instead of "both sides are then divided by x."

Verbs make English. If you pick out active, accurate, and lively verbs you will write in an active, accurate, and lively style. You should find the action in a sentence and express it in a verb. Expressing it in a phrase functioning as a noun saps vigor. The disease is called "nominalization," and it afflicts most academic prose (mine, for instance). Joseph Williams, who discusses it at length, gives an example that might have come from economics: "There is a data reanalysis need," in which the only verb is the colorless "is," and the real action is buried in the nouns "need" and "reanalysis" (1981, p. 12). You can fix such a sentence by using verbs: "We must reanalyze our data." Notice that a real verb requires a real subject. There's no place to hide. The "data reanalysis need," by contrast, merely exists, blessedly free from personal responsibility (the freedom from responsibility makes nominalization popular among bureaucrats). The general rule is to circle every "is" and try to denominalize the sentences containing them. Find the actor and the action. Follow the general rule: delete "is" when you can. You have no idea what vigor it will bring.

Before you sell a sentence for some poor reader to ride, then, check it for signs of life. Every rule of checking horses or sentences can have exceptions: the lack of parallel teeth or parallel expressions may have a good excuse, or may be compensated by some other virtue. But the flaws we do not recognize are so numerous that we had better get rid of all those we do.

23.) *Avoid Words That Bad Writers Love*

Finally, words. The snappiest rules about writing concern these things. If economic prose would simply drop "via," "the process of," "intra," "and/

or," "hypothesize," "respectively," and (a strange one, this) "this" the gain in clarity and grace would be substantial. Because it is easy at the level of the single word to detect and punish miscreants the legislative attitude towards prose reaches its heaven in lists of Bad Words. Some perfectly good English words have died this way; for instance, "ain't." But even good writers have such lists, often with good sense. And at a minimum certain words tag you as a barbarian simply because good writers have decided so. It's unfair to people lacking good educations, and there's nothing in the nature of the linguistic universe to justify it, but you might as well know for instance that in some company if you use "hopefully" to mean "I hope" instead of "with hope" you will be set down as thoughtless. Hopefully General Booth entered heaven.

The best practice provides the standard. George Orwell would not write "and/or" (or "he/she") because he wanted prose, not a diagram. Some others that I'm sure he would have disliked appear in my personal list of

Bad Words

Vague nouns and pronouns

"concept": a vague, latinate, front-parlor word; consider "idea," "notion," or "thought."

"data": over- and mis-used in economics. "Data" are plural, although it is clearly on its way to becoming singular in the language. "Data" means "givens" in Latin, and that is how you should use it, not as a do-all synonym for "facts," "statistics," "information," "observations," and so forth. The word embodies, incidentally, a scientifically disastrous attitude towards observation—that it is "given" by someone else—but the point here is one of style. "Datum" is one "data."

"function": in the sense of "role" is latinate.

"situation": vague. "Position" or "condition" are better, depending on the meaning.

"structure": vague. There are no obvious alternatives because the word generally means very little when it is used. On this word and other fashionable words in economics, see Fritz Machlup, *Essays in Economic Semantics*.

"process": usually so empty that it can be struck out (along with its "the") without changing the meaning, as in "the economic development process" or "the transition process." Try it.

"the existence of": strike it out, and just name the thing.

Pretentious verbs:

"critique": Elegant variation for "criticize" or "to read critically" or "to comment on."

"implement": Washingtonese, a rich and foolish dialect of Economese.

"comprise": Fancy talk for "include" or "consist of."

"analyze": Over- and mis-used in economics as a synonym for "discuss" or "examine." Look it up in your dictionary.

"hypothesize": For "suppose" or "expect." This word tags you (similar

words: "finalize," "and/or," "time frame").

"finalize": Boardroom talk. See "hypothesize," which is academic boardroom talk.

"state": in the sense of "say"; why not say "say?"

Pointless adjectives

"former . . . latter": "the above"; "the preceding": useless words, which request the reader to look back to sort out the former and latter things. Never request the reader to look back, because he will, and will lose his place.

"interesting": A weak word, made weak by its common sarcastic use and by its overuse by people with nothing to say about their subject except that it is interesting. It arouses the reader's sadism.

Useless adverbs:

"fortunately," "interestingly," etc.: Cheap ways of introducing irrelevant opinion.

"hopefully": A marker of poor taste when used to mean "I hope," as I have noted.

"Respectively": as in "Consumption and investment were 90% and 10% of income, respectively." What lunatic would reverse the correct order of the numbers? (Answer: a lunatic who doesn't express parallel ideas in parallel form.) Drawing attention to such a bizarre possibility by mentioning explicitly that it did *not* take place is a bad idea. When the list is longer, distribute the numbers directly; "Consumption was 85% of income, investment 10%, and government spending 5%."

"very": The very general rule is to think very hard before using "very" very much, and to very often strike it out. It is a weak word.

Misused conjunctions, prepositions, and miscellaneous phrases

"hence"; "thus" use sparingly.

vis a vis: means "face to face"; use it to mean this, not "relative to" or something even more vague. I have seen it spelt "viza vi"; someone was not using the dictionary.

"due to": usually signals a clumsy phrase, due to not arranging the sentence to sound right.

"via": plain "by" is the word wanted; "via" is a favorite of the UCLA Econ.

"in terms of": clumsy and vague; cf. "due to."

"for convenience": As in, "For convenience, we will adopt the following notation." An idiotic phrase, when you think about it. All writing should be for convenience. What would be the point of writing for inconvenience?

"kind of," "sort of," "type of": vague, vague, vague. Use sparingly.

"time frame": means "time"; it originates in the engineer's dim notion that "time" means "passage of time" alone, and not segments of time. But the notion is false. "This point in time" is the correlate phrase. Another marker of faulty taste.

"intra/inter": in coinages, do not use. Do not present verbal puzzles to your reader. Everyone has to stop to figure out what these prefixes mean. Use "within" and "between." "International" and "intramural" are fine, of course, being well domesticated. But "The inter- and intra-firm communication was weak" is silly. Fancy talk.

24.) *Be Concrete*

There are general principles. The main one is Be Concrete. The singular is more concrete than the plural (compare "Singulars are more concrete than plurals"). Definiteness is concrete. Prefer Wonder Bread to bread, bread to widgets, and widgets to X. Bad writers in economics sometimes use abstraction because they have nothing to say and don't want the fact to become too plain, in the style of the people to whom we have entrusted the education of our children. Mostly, though, they use abstraction to attain generality. They do not believe that the ordinary reader will understand that "Wonder Bread" stands for any commodity or that "ships" stand for all capital. Secret codes use the principle that translation is often easier in one direction than the other. A reader finds it harder to translate abstractions down into concrete examples than to translate examples up into abstract principles. Consequently, much economic writing reads like a code.

Professional economists develop into professional code breakers. To an economist this sentence doesn't sound so bad: "Had *capital and labor* in 1860 embodied the same *technology* that they had in 1780, the *increase in capital* would barely have offset the fixity of land." But here is a better way, which someone whose brain has not been addled by incessant reading of economics can make something of: "Had the *machines and men* of 1860 embodied the same *knowledge of how to spin cotton or move cargo* that they had in 1780, the *larger numbers of spindles and ships* would have barely offset the fixity of land." In a paper on Australia the phrase "sheep and wheat" would do just fine in place of "natural resource-oriented exports." In a paper on economic history "Spanish prices began to rise before the treasure came" would do just fine in place of "the commencement of the Spanish Price Revolution antedated the inflow of treasure." Writing should make things clear, not put them into a code of abstraction.

25.) *Be Plain*

The encoding often uses five-dollar words to support a pose of The Scientist or The Scholar. The pose is pathetic: science and scholarship depend on the quality of argument, not on the level of diction. "The integrative consequences of growing structural differentiation" means in human-being talk "the need for others that someone feels when he buys rather than bakes his bread." Anglo-Saxon words (need, someone, feels, buys, bread, bake) have often acquired a homely concreteness through long use that more recent and more scholarly coinages from Latin or Greek have not (integrative, consequences, structural, differentiation: all directly from Latin, without even a domesticating sojourn in French). "Geographical and cultural factors function to spatially confine growth to specific regions for long periods

of time" means in Anglo-Saxon and Norman French "it's a good bet that once a place gets poor it will stay poor."

Five-dollar words are not without their charm. In the hands of a master they transmit a splendid irony, as in Veblen's analysis of sports, which "have the advantage that they afford a politely blameless outlet for energies that might otherwise not readily be diverted from some useful end." But you've got to be Veblen to get away with such stuff. In most hands it is simply polysyllabic bullshit: "Thus, it is suggested, a deeper understanding of the conditions affecting the speed and ultimate extent of an innovation's diffusion is to be obtained only by explicitly analyzing the specific choice of technique problem which its advent would have presented to objectively dissimilar members of the relevant (historical) population of potential adopters." Come off it.

A lot of economic jargon hides a five-cent thought in a five-dollar word. We've forgotten that it's jargon. "Current period responses" means "what people do now"; "complex lagged effects" means "the many things they do later." "Interim variation" means "change," "monitored back" means "told." Economists would think more clearly if they recognized a simple thought for what it is. The "time inconsistency problem" is the economics of changing one's mind. The "principal/agent problem" is the economics of what hirelings do.

The great jargon generating function in economics is what may be called the Teutonism, such as der Grossjargongeneratingfunktion. German actually invents words like these, with native roots that no doubt make them evocative to German speakers (classical Sanskrit did it, too, using as many as twenty elements). But again it does not suit the genius of modern English. A common one is "private wealth-seeking activity," which is a knot in the prose. Untie it: "the activity of seeking wealth privately." When laid out in this way, with the liberal use of "of," the phrase looks pretty flabby. "Activity" is pointless (note that nothing happens when you strike it out), "private" is implied, and, by the same principle of untying the knot, "the seeking of wealth" is what is left. The trick lies in reintroducing "of": "factor price equalization" is muddy, though a strikingly successful bit of mud; "the equalization *of* the prices *of* factors *of* production" is clearer, if straggling. Most teutonisms do not make it as attempts to coin new jargon. "Elastic credit supply expectations rise" is too much to ask of any reader: he must sort out which word goes with which, whether the supply or the expectations are elastic, and what is rising. Hyphens help, but impose more notation. The reader can digest "The long-run balance of payments adjustment" much easier if it's put as "the adjustment of the balance of payments in the long run." The result is inelegant, but no less elegant than the original, and clearer. The following are exercises for the reader, but should not be:

"anti-quantity theory evidence"

"contractually uniform transaction cost"

"initial relative capital goods price shock"

"any crude mass expulsion of labor by parliamentary enclosure thesis"

"community decision making process"
"Cobb-Douglas production function estimation approach"
"alternative property rights schemes"

The possessive, unless attached to a proper noun (Samuelson's genius, Gary's pride), is not much used by good writers. It is greatly overused by poor writers, who delight in phrases like "the standard economist's model." The possessive is a teutonism maker, and has the teutonic ambiguity: what is standard, the model or the economist? You should reexamine any phrase with more than one adjective and should watch especially for nouns used as adjectives. It *is* the genius of English to let verbs become nouns and nouns adjectives. You go to the club, get a go in cribbage, and hear that all systems are go at the Cape. What is objectionable is piling up these nounverbadjectives teutonically.

26.) *Avoid Cheap Typographical Tricks*

Another objectionable practice is the acronym, such as "Modigliani and Miller (henceforth M&M)" or "purchasing power parity (PPP)." Besides introducing zany associations with candy and second-grade humor, the practice pimples the page and adds a burden of excess notation on the reader. The demands of the computer have worsened the situation. Resist, remembering that even expert mathematicians do not think in symbols. An occasional GNP or CAB won't hurt anyone, but even such a commonplace as GDCF pains all but the most hardened accountant. "Gross domestic capital formation" is fine once or twice to fix ideas, but then "capital formation" or (after all) plain "it" will suffice. Believe me: people will not keep slipping into thinking of it as GDCF or GCF or GC. The point is to be clear, not to "save space" (as the absurd justification for acronyms has it: the acronyms in most papers save a half dozen lines of print, less than the table-of-contents paragraph). As usual, bad writers set the standard of what not to do. Military officers and public school principals do it to excess. A word from the foolish suffices.

Certain other typographical devices need careful handling. Use these "devices" sparingly, they add an "air" of (henceforth "AAO") Breathlessness or Solemnity or *Coyness*! The *point* is that they *add* something, *instead of* "letting it speak for *itself*" (LISFI). They are, so to speak, *sound effects*! The *reader* "understands" this, and doubts *everything* that is said!! LISFI is better. Using these "devices" instead of LISFI suggests that something is wrong with the prose as is. If you use *italics* (underlining) to make your point clear it is probably because the *sentence* is badly set up to give emphasis *naturally*. Fix it. If you use "quotation marks" all the time when not actually "quoting" someone, it is probable that you wish to "apologize" for the "wrong" word, or to sneer at "it." Don't. It's impolite to cringe or to sneer.

27.) *Avoid This, That, These, Those*

Another plague is this-ism. These bad writers think this reader needs

repeated reminders that it is *this* idea, not *that* one, which is being discussed. The "this," however, points the reader back to the thing referred to. No writer should want his reader to look back, for looking back is looking away, interrupting the forward flow and leaving the reader looking for his place. The rule is to query every "this" or "these." Take them out. The thises and thats are demonstrative pronouns on the way to becoming the definite article. But we already have one. Often the plain "the" will do fine, and keep the reader reading.

28.) *Above All, Look at Your Words*

Beyond such matters of taste lies idiom. You must write English, which is no easy matter. The prepositions of English, its substitute for grammatical cases, cause endless trouble. Try experimenting with them to get the right one: is it "by" an increase "of" supply or "because" of an increase "in" supply? God, and Orwell, knows. Verbs come often preposition-enriched: write down, write up, and so forth. Pare the prepositions away if they are not essential. Words often come in couplets: one "overcomes," not "cures," one's ignorance. On the other hand, thinking in word pairs leads to the cliché. Break away from it when a more original word says it more precisely and more vividly. Observe what varied thoughts about "the pursuit of profit" are suggested by fleeing the cliche: seeking or finding or having or uncovering or coming upon or bumping into profit; and pursuing gain or maximum wealth or opportunities or stimuli or satisfaction or success. New words imply new thoughts. Wordthought is a part of thinking.

One should think what the word literally means and what it connotes. Get in the habit of asking each word whether it belongs. Half of the words you write in draft do not. English is jammed with dead metaphors, easily brought to life with incongruous effect, as in this sentence. Good writing examines the words for their literal meaning, to make sure that the metaphors remain dead or are at the least brought to life in a decorous way. Look at what you have written: are the words literally possible? "The indicators influenced the controls." How does an indicator influence a control? Someone wrote "the severity of the models," which is senseless; what he meant is "the models make assumptions that are hard to believe." Apparent absurdities are as distracting as actual absurdities: "absolutism is a relative term" is unacceptable, unless you have established with the reader a reputation for verbal clowning.

There is no end to word lore. Study of dictionaries and style books and the best writing of the age will make you at least embarrassed to be ignorant. You should already know, as an adult scholar, that "however" works better in a secondary position. You should already know that "in this period" is usually redundant, that lists are clumsy, that "not only . . . but also" is a callow Latinism, that "due to" is bureaucratese, that the colon (:) means "to be specific" and the semicolon (;) means "furthermore," that use of "regarding *X*" or "in regard to *X*" is definite evidence of miseducation. But

be of good cheer. You have plenty of company in such juvenilities. We all have much to learn.

* * * * *

Good style is above all a matter of taste. Adult economists share with college sophomores the conviction that matters of taste are "mere matters of opinion," the notion being that "opinion" is unarguable. A matter of taste, however, can be argued, often to a conclusion. The best argument is social practice, since that is what taste is. That so many people with a claim to know have listed the same rules for writing English in the late 20th century is itself a powerful argument. The Blessed Orwell, for instance, laid out a mere six rules, all familiar now, which would revolutionize economics if enforced by the editors of journals:

1. Never use a metaphor, simile or other figure of speech which you are used to seeing in print.
2. Never use a long word where a short one will do.
3. If it is possible to cut a word out, always cut it out.
4. Never use the passive where you can use the active.
5. Never use a foreign phrase, a scientific word, or a jargon word if you can think of an everyday English equivalent.
6. Break any of these rules sooner than say anything outright barbarous.

The editors in economics, unhappily, are not doing their job of applying such rules for the salvation of readers.* It is being left to the authors. Please begin.

To improve in writing style at all you must become your own harshest editor, as you must become your harshest critic to improve in thinking generally. Good writing is difficult. But economics is too fine a subject to be left in a verbal mess out of mere sloth. And what is at first difficult becomes a pleasure in the end, like any skill of civilization.

We can do better than the say-what-you're-going-to-say, elegant variation, inefficient exposition, boilerplate, incoherent paragraphs, impenetrable tables, flaccid word order, straggling sentences, contrived triplets, verbosity, nominalization, passive verbs, barbaric neologisms, abstractions, five-dollar words, teutonisms, acronyms, this-es, and fractured idioms of modern economic writing. The gain to science will be large.

*Editor's note: The reader should ask why such alleged indifference to copy editing survives despite the competitive nature of scholarly publishing in economic journals. Though McCloskey's paper is testimony to our belief that the writing economist needs a great deal more guidance than he or she has generally been given by editors, we are convinced that shifting expository responsibility to the author is *efficient*. It amuses us that one of Professor McCloskey's prime authorities on scholarly literacy, Jacques Barzun,

argues that copy editors are too interventionist. ["Behind the Blue Pencil: Censoring or Creeping Creativity?" *The American Scholar*, Summer 1985, 385–88.] We submit that editorial efforts in the profession are *optimal.* Authors like all recipients of unpriced but scarce services want more (or less) of it. We hope this intrusion puts the proper shadow price on such scholarly grumblings.

—T.E.B.

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